

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

Claims 1-8 are pending in this application. Claim 1 is the only independent claim.

Examiner Simone is kindly thanked for the courtesies extended to Applicant's representative during the telephone interview held November 3, 2009. The reasons warranting favorable action discussed during the interview are incorporated into the following remarks and constitute Applicant's separate record of the interview.

The Official Action rejects Claim 1-8 under 35 U.S.C. §103(a) over Swedish Patent No. SE 514 560 to Palm. The rejection is respectfully traversed.

Claim 1 defines an apparatus for evaporative cooling of a liquid product. The apparatus comprises, *inter alia*, a vacuum chamber possessing upper and lower end walls and divided into a first space centrally positioned with respect to the longitudinal axis of the vacuum chamber and a second space which concentrically surrounds the first space. The first space is extended downwards so that it extends at least as long below the lower end wall of the vacuum chamber as the extent of the first space inside the vacuum chamber. A coolant conduit is positioned in a portion of the first space located below the lower end wall for delivering coolant to cool the condensed steam.

Palm discloses an evaporative cooling apparatus having a vacuum vessel 1 including a lower wall 4 and two spaces 6 and 7 as shown in Fig. 2 of Palm. The Examiner explained during the interview that the space 6 corresponds to the claimed second space, and the space 7 corresponds to the claimed first space. The Official Action states that although Palm fails to explicitly disclose the claimed first space

extending downwards below the lower wall 4, such a configuration would have been simply an obvious matter of design choice. Further, the Examiner took the position during the interview that the conduit 19 is a part of the "first space" 7 such that the "first space" 7 (conduit 19) extends downwardly below the lower wall 4.

Notwithstanding this interpretation of Palm, and as tentatively agreed during the interview, Palm's evaporative cooling apparatus does not include a coolant conduit positioned in a portion of the "first space" 7 (conduit 19) located below the lower wall 4 for delivering coolant to cool the condensed steam, as recited in independent Claim 1. For instance, as tentatively agreed during the interview, there is no coolant conduit provided in the conduit 19 ("first space") of Palm for delivering coolant to the condensed steam. Nor is there any reason to include such a coolant conduit. Thus, as tentatively agreed during the interview, Palm fails to disclose, in combination with the other claimed features, a coolant conduit positioned in a portion of the first space located below the lower end wall for delivering coolant to cool the condensed steam as recited in independent Claim 1. Thus, independent Claim 1 is patentable over Palm for at least these reasons.

The Official Action comments that the present application fails to disclose that the claimed configuration solves any particular problem, and that Palm's apparatus is capable of performing equally as well as the apparatus defined in Claim 1. Applicant respectfully disagrees.

As discussed during the interview, purposes for the claimed configuration are clearly disclosed in the present specification at, for example, page 3, lines 2-7 and 14-18, page 6, lines 21-30, and page 7, lines 20-28. In particular, according to the Claim 1 configuration, the first space provided below the end wall accommodates the volume of steam and incondensable gases in a location of the apparatus where it is

cooled by coolant without substantial risk of the coolant splashing over to the cooled product in the second space. In the exemplary embodiment shown in Fig. 1 of this application, a coolant conduit 20 is provided inside the first space 6 below the end wall 4 (i.e., inside lower part 8 of the first space 6). As discussed during the interview, because coolant is showered down through apertures 21 of the conduit 20 onto the steam and incondensable gases in the lower part 8 of the first space 6, there is little risk that the coolant will splash into the second space 7 which holds the cooled product above the end wall 4. In addition, by providing the first space below the end wall, so that that the steam and incondensable gases are cooled by the coolant below the end wall, the product in the second space is provided away from a cold surface. Accordingly, the product is inhibited or prevented from being condensed too early. Therefore, as discussed during the interview, reasons for disposing the claimed first space with the cooling conduit below the end wall include accommodating the cooling equipment so that the steam and incondensable gases are in a location where they can be cooled by coolant without significant risk of coolant splashing into the second space, and to prevent the product from being condensed prematurely.

On the other hand, as shown in Fig. 2 of Palm, there is a risk that coolant water used for condensing the steam in the second space 7 may splash over to the first space 6 and dilute and/or infect the sterile food product. In addition, by showering the coolant from above in the second space 7, a cold surface is created between the first and second spaces against which the food product contacts, resulting in the steam in the product being condensed too early and accompanying the product out from the plant. Thus, Palm's apparatus is clearly not capable of performing equally as well as the apparatus defined in Claim 1.

Claims 2-8 are patentable over Palm at least by virtue of their dependence from patentable independent Claim 1. Thus, a detailed discussion of the additional distinguishing features recited in these dependent claims is not set forth at this time. Withdrawal of the rejection is respectfully requested.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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